

By

<b>Notice of Allowability</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/992,769		PARKER, JONATHAN	
	<b>Examiner</b>		<b>Art Unit</b>	
	TUAN A PHAM		2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/06/2001.
2. ☒ The allowed claim(s) is/are 1-33.
3. ☒ The drawings filed on 06 November 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>11/06/2001</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                                 | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

  
**CURTIS KUNTZ**  
 SUPERVISORY PATENT EXAMINER  
 TECHNOLOGY CENTER 2600

## DETAILED ACTION

### REASONS FOR ALLOWANCE

1. Claims 1-33 are allowed over the prior art of record.
2. The following is an examiner's statement of reasons for allowance:

Schollhorn (U.S. Patent No.: 6,424,683) teaches a receiver adapted for use in a communication system (see figure 1, col.4, ln.1-5), wherein the communication system includes at least one transmitter and at least one receiver, and wherein data is received by the receiver in a received signal having a received frequency within a received frequency band, and wherein the received signal comprises a wanted signal having a first wanted frequency within a first wanted frequency band and an interference signal having an interference frequency within the received frequency band (see figure 3A, first wanted frequency  $f_1$ , col.4, ln.59-67).

Williams (U.S. Patent No.: 5,557,642) teaches direct conversion receiver comprising the first wanted frequency band is between a lower wanted frequency and an upper wanted frequency, and wherein the wanted signal is centered about a first wanted frequency band center frequency (see figure 5, first wanted frequency  $W_c$ , lower wanted frequency  $W_c - (1/2)W_{bw}$ , upper wanted frequency  $W_c + (1/2)W_{bw}$ , col.4, ln.9-25).

Suominen (U.S. Patent No.: teaches a tuner adapted to receive the received signal, wherein the tuner outputs a first intermediate frequency signal (IF), and wherein

the IF has a first intermediate frequency signal band (SB) and is centered about a first intermediate center frequency (IF1).

McNicol (U.S. Patent No. 6,363,262) discloses a wideband receiver circuit for receiving a plurality of carriers having relatively high frequencies. The receiver circuit comprises a frequency converter for down-convert the high frequency to low frequency.

Oberhammmer (U.S. Patent No. 6,157,682) discloses a wideband receiver circuit with bandwidth extension A and B cellular spectrum using analog conversion for sampling frequency of an analog to digital converter.

However, the prior art made of record fails to teach or suggest, the arrangement of the receiver adapted for use in a communication comprises an analog-to-digital converter (ADC), coupled and responsive to the tuner, wherein the ADC samples and downconverts the IF and outputs a downconverted signal, and wherein the ADC has a sampling rate (SR) that is less than twice the upper wanted frequency, and wherein the sampling rate is selected so that a degree of aliasing of the interference signal into the first wanted frequency band after downconversion is maintained below a predetermined threshold, in combination with other limitations, as specified in the independent claims 1, 24-25, and 28, and further limitations of their respective dependent claims 2-23, 26-27, and 29-33.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987 and E-mail address is: **tuan.pham@USPTO.GOV**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and

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Any response to this action should be mailed to:

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Or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

Art Unit 2643  
January 03, 2005  
Examiner

Tuan Pham



CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600